1924

INDEX

PERSONAL INDEX

PAGE

Abbot, C. G. 25
Abercromby, R. 57, 228
Aitken, J. 8, 67, 275
Alexander, P. V. 141
Amundsen, R. ..9, 107, 108, 143, 192
Andrews, W. 205
Ångström, A. 27
Applegate. T. H. 13
Appleton, E. V. 49
Ashworth, J. R. 205
Austin, E. E. 230

Bairstow, L. 190
Baldwin, ... 211
Bancroft, W. D. 39
Barker, Sir D. W. 8, 34, 105
Barker, T. 19
Barlow, E. W. 91
Barton, E. H. 112
Batty, R. P. 63
Baxendall, C. 6
Baxendall, J. 6
Bellamy, Mr. & Miss 206
Bemmelen. W. Van 265
Benest, E. E. 105
Besson, L. 34, 53, 138, 284
Bigelow, T. H. 278
Bilham, E. G. 77, 134, 213, 229, 236, 278
Bird, ... 133
Bjerknes, J. 7, 77
Bjerknes, V. 16
Blackie & Son, Ltd. 262
Bonacina, L. C. W. 27, 35, 249
Bone, W. A. 61
Borns, H. 206
Botley, C. M. 12, 36, 56, 88, 132, 206 255
Bowering, D. F 77
Bowie, E. H. 89
Boys, H. A. 107, 130, 233
Braak, C. 8, 265
Bragg, W. L. 112
Brennecke, W. 100
British Broadcasting Co...16, 108, 267
Britton, C. E. 6, 19, 279, 287
Brooks, C. E. P. 6, 100, 115, 129, 131, 173, 181, 240
Brooks, C. F. 100, 185

PAGE

Bruckner, E. 206
Brunt, D. 6, 35, 42, 80, 180, 203, 230
Bryant, W. W. 20
Bulkeley, A. M. 222
Burder, G. F. 38
Butcher, A. 36
Butler, C. P. 222

Cabannes, J. 112
Cadbury, Messrs. 289
Cæsar, A. 35
Callendar, H. L. 27
Carlyle, T. 11
Casella, C. F. & Co. 205
Cave, C. J. P..34, 52, 53, 68, 85, 181
Cave-Browne Cave, T. R. 191
Chapman, S. 223
Chipp, T. F. 59
Chree, C. 9, 25, 35, 54, 84, 102, 126, 229, 250, 251, 280
Clark, J. E. 126, 127, 182
Clarke, G. A. .. 3, 105, 181, 213, 222, 233
Claxton, T. F. 134
Clayden, A. W. 104
Clayton, H. H. 201
Coblentz, W. W. 42
Constable & Co., Ltd. 247
Cooke, R. 19, 183
Copping, B. A. 6
Corless, R. 42, 136, 206, 264
Cortie, A. L. 204
Cour, D. la 144
Cox, G. W. 18
Cruickshank, A. H. 188
Cruickshank, J. 188
Cundall, L. B. 284

Dale, H. D. 258
Darbishire, ... 205
David, Sir E. 9
Davis, W. G. 253
Dechevrens, R. P. M. 290
Delcambre, E. 202
Delday, W. 9
Denning, W. F. 38, 58
Dines, L. H. G. .. 84, 128, 132, 165, 204, 205

Wt 69—P1 1,000 1/24 M&C

PAGE

Dines, W. H. ..42, 84, 141, 165, 215
Dobson, G. M. B. 8, 17, 33, 54, 141, 216, 223, 284
Dodwell, G. F. 90
Donnel, C. A. 63
Doodson, A. T. 203
Doodson, Mrs. 206
Douglas, C. K. M. 51, 227, 280
Dover, J. 39
Durst, C. S. 85
Durston, K. 4
Durward, J. 279

Eagle, Star & British Dominions Insurance Co., Ltd. 230
Edge, N. 206
Edwards, F. 5
Egypt, King of 291
Eiffel, A. G. 290
Entwistle, F. 181, 206
Everdingen, E. van 134, 199, 202
Evershed, J. 164
Exner, F. M. 88, 201

Fahrenheit, D. G. 185
Ferraz, M. S. 134, 167
Ficker, H. 15
Field, J. H. 167, 186
Fitzgerald, ... 205
Fleming, R. M. 206
Fowle, F. E. 254
Friedmann, J. 35
Fujiwhara, S. 35, 113, 247

Gendle, A. E. 266, 290
General Electric Co. 115
Giblett, M. A. 152, 206, 212, 286
Gibson, C. R. 262
Giles, M. 105
Glasspoole, J. 5, 100, 102, 266
Glazebrook, Sir R. 41, 112, 189
Gold, E. ..7, 35, 108, 128, 143, 200
Goldie, A. H. R. 206
Gorczynski, W. L. 175
Gould, F. A. 42
Granger, R. F. 54
Gregory, J. W. 91
Gregory, Sir R. 205, 284
Griffin, J. G. 9
Griffiths, E. A. 42
Grubb, J. E. 55, 58, 61
Gyldèn, H. 186
Guyot, A. 278

H. 10
Haig, R. A. de H. 40
Hall, W. 206, 222
Hankin, E. H. 62

PAGE

Hann, J. 17
Hansen, H. 191
Harker, J. A. 207
Harries, H. 30, 162
Harrison, E. P. 206
Harrison & Sons 66
Harwood, W. A. 5, 206
Hauptmann, M. 186
Hawkins, E. 263
Hay, G. R. 206
Hellmann, G. 64, 110, 255
Hepworth, M. W. C. 101
Hesselberg, T. ..35, 134, 199, 202, 256
Hildebrandsson, H. H. 101
Hill, A. 222
Hill, A. V. 112
Hill, R. 222
Hinkler, B. 238
Hoffmeyer, N. 114
Hooker, R. H. 126, 239
Horner, D. W. 18
Houghton, A. S. 162
Houston, Sir A. 182
Humphreys, W. J. 273
Huntington, E. 229, 250

Jackson, H. F. 206
James, John H. 43
James, J. H. 238
James, W. G. 43
Jeffreys, H. 168, 206, 280
Jenkin, A. P. 255
Johnson, N. K. 8, 33
Jolly, H. L. P. 42
Jones, A. T. 17
Jude, F. W. 154

Keble, J. 20
Kenneth, B. 19
Kidder, ... 183
Kilgour, W. T. 139
Kimball, H. H. 140, 260
Kinvig, Mr. & Mrs. 206
Knott, C. G. 42, 67, 275
Knudsen, M. 75
Kobayasi, T. 84

Lagrange, E. 185
Lamb, H. 239
Latchmore, A. 150
Lawson, G C. 207
Leaf, C. 222
Lecointe, S. 40, 239
Lee, A. W. 281
Lee, L. G. H. 168
Lempfert, R. G. K. 247
Lewis, H. K. & Co., Ltd. 263
Lindemann, F. A. ..8, 17, 33, 141, 205, 223

PAGE

Littlefield, G. 133
Lloyd, G. ff. H. 6, 206
Lockyer, Sir N. 7
Lockyer, W. J. S. 222
Loebe, W. W. 279
Longley, N. 152
Longstaff, T. G. 126
Longton, W. H. 238
Low, W. 14
Lowe, E. J. 284
Lyons, H. G. 251

Mace, J. E. 37
Machulish, J. M. 30, 162
Mackenzie, D. A. 36
Macmillan, N. 238
Macmillan & Co. 112
Maneyrol, A. 41, 237
Manning, T. D. 152
Margary, I. D. 126
Marriott, W. 64
Marvin, C. F. 35, 138
Matthews, D. J. 42
McAdie, A. 285
McLeod, H. 240
Meinardus, W. 173
Meisinger, C. L. 278
Mellish, H. 43
Meyer, K. 185
Miara, ... 248
Mill, H. R. 99, 253, 291
Milne, E. A. 223
Mintern, J. 11, 258
Mitchell, A. C. 42
Mitchell, W. G. 206, 284
Moltchanoff, M. P. A. 34
Montgomery, H. 206
Moore, A. 222
Moore, J. 160
Moreux, T. 186
Mossman, R. C. 44, 60, 217
Munro, R. W., Ltd. 205
Murphy, E. W. M. 38
Murray, Sir J. 75

Negretti & Zambra 189, 205
Newbiggin, M. 205
Newnham, E. V. 52, 80
Nicholas, J. 152
Niven, C. 92
Norman, G. H. 190
Northumberland, Duke of 134

Okada, Mrs. 248
Okada, T. 248, 280
Omdal, ... 41
Omori, F. 291
Onslow, Earl of 61
Owens, J. S. 8, 140, 205, 260

PAGE

Pace, H. L. 64
Parsons, F. J. 39, 130
Parville, H. de 57
Paulin, G. 140
Paulsen, A. F. W. 114
Peacock, T. 259
Pearce, A. H. 266
Pearman, A. J. 183
Pembroke, 3rd Earl of 254
Penny, J. 291
Pernter, J. M. 127
Petavel, Sir J. 206
Peters, S. P. 161, 280
Petersen, J. 173
Philip, G., & Sons 284
Pick, W. H. 63, 86, 159, 161, 280
Piercey, M. W. 238
Plummer, H. C. 206
Plummer, W. E. 205
Postmaster General 215
Priestley, C. F. 88
Proudman, J. 205
Proudman, Mrs. 206

Radcliffe Observer 182
Raman, C. V. 74
Rambaut, A. A. 240
Ramsbottom, J. 190
Rankin, A. 254
Rawson, H. E. 137
Rayleigh, the late Lord 73, 112
Rayleigh, Lord 74, 112, 223, 259
Read, R. S. 239
Réamur, R. A. F. de 185
Reed, H. A. 188
Reynolds, C. 20
Riabouchinsky, D. P. 184
Richardson, L. F. ..55, 205, 247, 251
Robertson, W. M. 10, 18
Robinson, G. 262
Robinson, H. 251
Rodney, I. 85
Rœmer, O. 185
Rogers, H. A. 99
Rolf, B. 160
Rowland, J. P. 206
Royds, T. 164
Russell, A. 258, 259
Russell, S. C. 65, 153
Ryd, V. H. 180, 227, 281
Ryder, C. H. 91, 114, 144

Salter, M. de C. S. ..68, 97, 102, 188, 206
Salter, M. J. 97
Sandström, J. W. 141
Sanson, G. S. 222
Schereschewsky, Ph. 227
Schmoluchowski 112

PAGE
Schuster, Sir A. 267
Schwerdt, H. G. 279
Scott, E. K. 259
Scott, R. F. 66, 67, 87, 107
Scrimshaw, ... 133
Sen, S. N. 5, 252
Shankland, E. C. 85
Shaw, J. J. 205
Shaw, J. N. 42
Shaw, Lady 197
Shaw, Sir N. ..7, 42, 67, 111, 114, 180, 191, 199, 202, 227, 230 239, 245, 247, 266, 281, 282, 284
Simpson, G. C...6, 44, 66, 91, 92, 97, 107, 127, 201, 230, 257, 259
Simpson, Mrs. 6
Sinclair, K. 12
Skinner, S. 42, 162
Smith, ... 205
Smith, L. A. Brooke. 261, 267
Smyth, P. 252
Solberg, H. 7, 77
Sowerby, J. De C. 97
Spence, L. 11
Spence, M. T. 73, 223
Spitaler, R. 249
Stafford, Sheriff of 255
Stanley, W. F., & Co., Ltd. 282
Stewart, C. D. 129
Stupart, Sir R. F. 108, 257
Supan, A. 157, 255
Svenska, Aktiebolaget Navigator 140
Swinton, A. E. 37
Symons, G. J. 1, 98, 129

Talman, C. F. 57, 110
Taylor, E. M. 152
Taylor, G. 18
Taylor, G. I. 246, 266
Taylor Instrument Co. 136
Teisserene de Bort, L. 141
Tetens, O. 124
Thompson Bros. & Co. 166
Thornton, W. M. 133
Tinn, A. B. 161
Tonnelot 283
Trevissa 137
Turner, H. H. 205
Turner, Mrs. & Miss 206

PAGE
Tyndall, J. 64, 113

Udden, A. D. 279

Vegard, L. 223, 279
Veryard, R. G. 6
Vigurs, C. C. 208
Visher, S. S. ..121, 143, 154, 178, 255

Wadsworth, J. 159
Wales, Prince of 134
Walker, G. T. 62, 201
Waller, J. C. 232
Wallis, A. H. 106
Wallis, S. 98
Warham, P. 183
Waring, F. H. 133
Warren, F. 39
Warren, S. 183
Watson, G. M. 260, 278
Watson, R. E. 181
Watson, T. 143
Watt, R. A. W. 49, 85, 87
Watters, A. 44
Webb, W. M. 262
Wedderburn, E. M. 143
Wegener, A. 88
Wehrlé, Ph. 227
Westchester Racing Association 239
Westman, J. 160
Western Electric Co. 49
Whipple, F. J. W. .. 17, 42, 49, 113, 180, 185, 191, 206, 251, 263, 284
White, G. 19
White, R. H. 19
Whitehead, J. 143
Whittaker, E. T. 262
Willard, T. 20
Williams, I. R. 232
Willoughby, E. F. 99
Wilson, C. T. R. 42
Winchester, L. 206
Woodruff, E. E. 19
Wragge, C. L. 252
Wright, C. S. 66

Yarrow, Sir A. 266
Yonge, C. 20
Younghusband, Sir F. 91

SUBJECT INDEX

Meteorology—General :—

Official Notices :— PAGE

Benson Observatory, The passing of 215
Climatological stations in Scotland 139
Cruickshank lectureship in Astronomy and Meteorology..... 188
Discussions at the Meteorological Office..... 34, 180
Forecasts by Telephone, The circulation of..... 83, 165
Forecasts to the Public, The supply of 16
International Cloud Week..... 111, 181, 216, 221
International Photographic Survey of the Sky 111
Lectures at the School of Meteorology 180
Summer Time Act 53
Storm Signal stations..... 114
Superintendents, Change of 206
Training for Observers at Kew, A course of.....5, 91, 180
Transfer of Coastguard stations to the Board of Trade..... 109
Upper Air Investigations at Kew..... 215
Winter Thunderstorms 68
Wireless weather reports 267

Official Publications :—

Advisory Committee on Atmospheric Pollution, Eighth annual report 159
Daily Weather Report, Supplement to the..... 43, 192
Fernley Observatory, Southport, Report and results of observations for the year 1921..... 6
Geophysical Memoir, Vol. II., No. 15, Summary of 239
Geophysical Memoirs, Vol. III., Nos. 20-21 181
Marine Observer, The..... 261
Meteorological Magazine, Rainfall Tables, Weather article and Thames Valley rainfall map in the..... 2
Monthly meteorological charts for the Oceans 261
Monthly Weather Report, Changes in the 89
Normals, Book of, of Meteorological Elements for the British Isles for periods ending 1915, Section IV..... 181
Professional Notes, Vol. IV., Nos. 31-33..... 159,181

Societies, Lectures, &c. :—

Aero Club, The Royal, Light Aeroplane Contests. R. S. R. 237
Agriculture Show, The Royal, at Newcastle, July, 1923 133
Astronomical Society, The Royal, Geophysical supplements to Monthly Notices 181
British Association for the Advancement of Science, Liverpool, 1923 ..142, 203
Commission for Maritime Meteorology..... 200
Conference, Joint, of the Royal Meteorological Society, the Science Masters' Association and the Geographical Association 266
Cornwall Rainfall Association 255
International Air Congress, London, 1923 66

Meteorology—General—*cont.*

Societies Lectures, etc.—cont. PAGE

International Cloud Week, Sept., 1923 221
International Congress of Navigation, London, July, 1923 188
International Geographical Congress, Meeting at Cairo, 1925 .....
International Meteorological Conference, Utrecht 134, 198
International Weather Telegraphy Commission 200
Jevons Memorial Lectures, University College, London, 1923-4..... 239
Lecture by Commander Brooke-Smith 267
Lecture by Mr. de Carle Salter on Rain 68
London County Council's lectures for Teachers..... 191
Madras and Kodaikanal Observatories, Appointment of Director of.... 164
Meteorological Office, Discussions at the :—

PAGE

Meteorological conditions for the formation of rain 7
Life cycle of cyclones and the polar front theory of atmospheric circulation 7
On cloud formation (nuclei of condensation, haziness, dimensions of cloud particles) .. 8
A theory of meteors and the density and temperature of the outer atmosphere to which it leads 33
The pilot charts of the South Atlantic and South Pacific 34
Classification détaillée des nuages à l'Observatoire de Montsouris..... 53
Meteorological problems—I. Travelling cyclones 227
Les systèmes nuageux..... 227
Klimatische Kontinentalität und Ozeanität 249
The earth and the sun. An hypothesis of weather and sunspots..... 251
The preparation and significance of free air pressure maps for the central and eastern United States 278

Meteorological Society, The Royal :—

Election of President and Council for 1923.. 9
The Presidential Address. Aurora and allied phenomena 9
The reform of the calendar..... 35
On the growth and decay of vortical systems 35
On the mechanism of extratropical cyclones 35
Characteristics of the atmosphere up to 200 kilometres as obtained from observations of meteors 54
An examination of British upper air data in the light of the Norwegian theory of the structure of the cyclone..... 84
On the mechanism of cyclones and anti-cyclones 84
Notes on the fluctuations of mean sea level in relation to change of atmospheric pressure 85
The fluctuations of annual rainfall in the British Isles considered cartographically.. 102
(A) An improved actinograph. (B) Note on the influence of a glass shade..... 104
Notes on the sumatras of the Malacca Straits 105
Report on the phenological observations in the British Isles for the year 1922..... 126
Meteorological notes from the Mt. Everest expedition of 1922 126
Towards a basis of meteorological theory: thirty-nine articles of condition for the middle atmosphere 230
Attempts to measure air temperature by shooting spheres upward 251
Exhibit of a replica of an early Korean rain-gauge 251
Exhibit of a limit-gauge for rainfall..... 251
On the distribution of air density over the globe 252
A note on the vertical visibility (estimated looking downwards) at Cranwell, Lincolnshire, during the period February, 1922, to June, 1923 280
The cause of cyclones..... 280
The relation of the circulation in the upper air to a circumpolar vortex..... 281

Metropolitan Water Board, 17th annual report..... 182
Pan Pacific Science Congress 67
Paper by Dr. H. Jeffreys in Philosophical Magazine, July 1923 168
Royal Institution, The, Dr. Simpson's lecture at 44, 91
Royal Scottish Geographical Society 291
Royal Society 266

Foreign Institutions, &c. :—

Aerological Observatory, Pavlowsk, Result of daily investigations of the free atmosphere..... 34
American Association for the Advancement of Science and the American Meteorological Society, Joint meeting of the 291
Brazilian Meteorological Service 1921-1923..... 167

Meteorology—General—*cont.*

Foreign Institutions, etc.—cont. PAGE

California, Frost service of southern 60
Canadian Meteorological Service 108
Institut Royal Météorologique, Brussels. Gordon Bennett Balloon Race, Sept. 23rd, 1923. M. A. Giblett 210
L'Institut de Physique Cosmique de Moscou 184
National Institute of Meteorology of Montevideo 191
Russian Meteorological Service. Adoption of Gregorian calendar 34
United States Hydrographic Office, pilot charts of the South Atlantic and South Pacific 34

Expeditions :—

Amundsen's polar expedition 41, 143, 192
Conquest of the Air, The 40, 239
Floating Weather Bureau, A 89
Mount Everest Expedition of 1922, Meteorological notes from the 126
Norwegian meterological service and losses in the Arctic. G. C. Simpson 256
Notable flights announced for 1923 ..... 41•
Oceanographic expedition by the Armauer Hansen 191
Scott's last march, The meteorology of, The Halley lecture, G. C. Simpson 107

Reviews :— PAGE

AITKENS, DR. J.—The collected scientific papers of John Aitkens, edited by Dr. C. G. Knott. G. M. Watson 275
BRAAK, C.—Het Klimaat Van Nederlandsch-Indie, Part III., J. G. 265
CHIPP, T. F.—The forest officers' handbook of the Gold Coast 59
REPORT ON THE COLOMBO OBSERVATORY FOR 1922 214
COX, G. W.—Upper Air Research 18
DICTIONARY OF APPLIED PHYSICS, edited by Sir R. Glazebrook. F. J. W. W. .....
Vol. III. 41
Vol. IV. 112
Vol. V. 189
HAWKINS, EDGAR.—Medical Climatology of England and Wales. R. C. 263
HUMPHREY, W. J.—Weather Proverbs and Paradoxes 273
PHOTOGRAPHY AS A SCIENTIFIC IMPLEMENT. 262
MCADIE, PROF. A.—Wind and Weather 285
QUARTERLY NOTES AND GENERAL FORECASTS OF THE BRITISH WEATHER BUREAU ASSOCIATION.—Edited by D. W. Horner 18
SCHERESCHEWSKY, PH., ET WEHRLÉ, PH.—Les systèmes nuageux 227
SOUTH AFRICAN IRRIGATION DEPARTMENT MAGAZINE.—Cane Sugar and Irrigation ... 59
TYCOS.—April, 1923 136
WHITTAKER, PROF., E. T.—Methods of Interpolation 262
WRIGHT, C. S.—British Antarctic expedition, 1910-1913. Observations on the Aurora and Determination of Gravity 66

Meteorological Office, Staff News :—

Annual Soirée, 1923 6
Degrees, D.Sc., M.Sc. and B.Sc. obtained 6
Football Cup, Air Ministry inter-departmental 44, 68, 92
Shoeburyness Staff Dinner 6
Superintendents, Change of 206

Appointments and Awards :—

Copley Medal, 1923, Award to Prof. H. Lamb 239
Danish Meteorological Institute, Dr. D. la Cour appointed as Director of 144
H.M. Inspector of Schools, Appointment of L. G. H. Lea as 168
International Meteorological Committee, Election of Sir Napier Shaw as honorary member of 202
Investigation of the Upper Air Committee, Appointment of L. H. G. Dines to 204
Johnson Memorial Prize, Award to G. M. Dobson 216
Madras Observatories, T. Royds appointed as Director of the 164

Meteorology—General—*cont.*

Appointments and Awards—cont. PAGE

Meteorology and Gunnery: Award to Col. Gold and Capt. E. M. Wedderburn 143
Royal Medal, 1923: Award to Sir Napier Shaw 239
Symons Medal, 1924: Award to Prof. T. Okada 280
Travelling studentship: Award to Dr. S. S. Visher 143
Yarrow Professorship, G. I. Taylor appointed to 266

Obituary:— PAGE

BRYANT, W. W. 20
DECHEVRENS, R. P. MARC. S. J. 290
EIFFEL, A. GUSTAVE 290
GENDLE, FLIGHT LIEUT. A. E. 266, 290
HARKER, DR. JOHN ALLEN 207
JAMES, JOHN HENRY 43
MCLEOD, DR. HERBERT 240
NIVEN, DR. CHARLES 92
OMORI, DR. FUSAKICHI 291
RAMBAUT, DR. ARTHUR A. 240
RYDER, CAPT. CARL HARTVIG 114
SALTER, MORTYN DE CARLE SOWERBY (*illus.*) 97
SHAW, LADY 197

Meteorological Terminology:—

Cloud Nomenclature. "Nebulum" and "Velum" 228
Definition of a Rank Diagram 208
,, of sizzle 86
International symbols ⇐ and ⇑ 110
Many meanings of the word "dust" 275
Symbols for driftsnow 160

Miscellaneous:—

A Bird's song in relation to light 137
Cambridge University Press. Books published by 67
Cruickshank lectureship in Astronomy and Meteorology 188
Daylight saving bill for Montevideo 191
Determinations of Gravity 66

Early Meteorological Records:— PAGE

Abstract of early meteorological literature in Les deux Soleils 57
"Big Bang" of 1711, The 19
Barker, Thomas, The diarist 19
Burning of ferne doth draw downe Rain, The. C. M. Botley 254
Early records of notable weather 19, 183
Prime, The 206
Editorial 1
Height records 40, 239
Horse racing and weather insurance 239
Photography as a scientific implement 262
Progress of meteorology 42, 245, 284
Rainfall circulars 1
Sale of meteorological publications 44
Sale of second hand rain-gauge 250
Series in magnetic disturbances 204
Sky writing, An unusual sky effect due to 13
Sound ranging 112
Summary of the Climate and Weather of the Falkland Islands 239
Toy balloon "races" from Brighton (*illus*). Hy. Harries 30
Weather and Wireless magazine, A new 18

Observatories and Stations:— PAGE

Benson 215
Cherry Garden Pier, Rotherhithe 114
Fort William 139
Leafield 215
Onich 139
Raunds, Wellingborough, ... 168
Southport, Fernley Observatory .. 6
Tilbury storm signal station 114

Observatories and Stations—*cont.* PAGE

Aerological Observatory, Pavlowsk 34
Canadian stations, Formation of new 257
Coastguard stations to the Board of Trade, Transfer of 109
Floating Weather Bureau 89
Fort Good Hope 108
Izana Observatory, Teneriffe 15
New Year Island, meteorological station on 60
Novaya Zemlya Island, Wireless station at 114
Santa Cruz de Tenerife, A new observatory for the Canary Islands.... 15
Solarphysics Observatory for Central Australia..... 90

Methods of Observation and Computation :—

Calibration of the Dines Balloon Meteorograph..... 165
Computed heights of pilot balloons 287
Correlation, Publication of homogeneous data from stations 500 or 1000 km. apart for the purpose of 201
East-West Oscillation of the Icelandic Minimum as shewn by Monthly Pressure Charts (*illus*). C. E. P. Brooks 173
Effect of Wind Suction in Lighthouses 135, 285
Forecasting of night minimum temperatures from the temperature and humidity of the preceding afternoon 63
Internatiomal symbols..... 110, 160
Logarithmic Paper. Napier Shaw 281
Methods of Interpolation 262
Method of working meteorograph 164
Thermometer Exposure 186
Units for meteorological work 246

Instruments :—

Actinograph, An improved 104
Aitken's "dust counter"..... 8, 276
Anemometer Pens. L. H. G. Dines 131
Autographic record of soil temperature at Kew Observatory 189
Barometer, The 108
Barometers of different types, Difference between corrections to be applied to 42
Barometer, Paulin Aneroid 140
Limit gauge for rainfall, Exhibit of a 251
Meteorograph, An open scale 164
,, The calibration of the Dines balloon..... 165
Rain-gauge, Exhibit of a replica of an early Korean 251
Rain-gauges, The design of 37
,, The exposure of. C. D. Stewart 128
Sunshine recorder ball, A defective 261
Thermometer Exposure 186
,, , The history of the Fahrenheit 185
Thermometers, Exposure of, in India 167
,, , Minimum 259, 283
Wireless direction-finding apparatus at Croydon and Pulham 250

Physics of the Atmosphere :—

Atmospheric pollution 289
,, ,, , Prevention of 41
,, ,, , Widespread 61
Audibility, zones of, High temperature in the upper air as an explanation of 17

Physics of the Atmosphere—*cont.* PAGE

Audibility of, and concussion caused by the explosion of the gunboat *Edgar* in 1711 19
Balloons liberated together fall in the same place 30
Characteristics of the atmosphere up to 200 kms. as obtained from observations of meteors 54
Cloud formation 8
Constituents of the Upper Atmosphere, Recent researches on the. M. T. Spence 223
Cyclones, On the mechanism of extratropical 35
Density and temperature of the outer atmosphere to which it leads, A theory of meteors and 33
Distribution, On the, of air density over the globe 252
Dust Counters 276
Dust, The first samples of, from the upper air 140
Helmholtz waves and mirage 13
Life cycle of cyclones and the polar front theory of atmospheric circulation 7
Light, The scattering of 112
Meteorological conditions for the formation of rain 7
Norwegian theory of the structure of the cyclone, An examination of British upper air data in the light of the 84
Organic bodies in the air 260
Pilot Balloons, Lightning and Oxides of Nitrogen 162
Relation of the circulation in the upper air to a circumpolar vortex 281
Smoke Abatement Legislation 61
Sound, The theory of 113
Surfaces of discontinuity, the key to weather forecasting 16
Visibility, A note on the vertical, at Cranwell 280
Visibility, Vertical, Wind and Dust. W. H. Pick and S. P. Peters 161
Vortical systems, On the growth and decay of 35

Investigations of the Upper Air :—

Aerial Route, Meteorology on the Cairo to Baghdad 163
Aeroplane Contests, Light 237
Air Density, On the distribution of, over the globe 252
Air Temperature, Attempts to measure, by shooting spheres upward ... 251
,, Seasonal variation of, at great heights 141
Atmospheric pressure, Horse power of aeroplane engine depends on 190
Ballons Sondes, Ascents with, at Pretoria 18
,, ,, , Early records from 141
Characteristics of the atmosphere up to 200 kms. as obtained from observations of meteors 54
Circulation in the upper air to a circumpolar vortex, The relation of the 281
Conquest of the Air 40, 239
Free Air Pressure Maps for the central and eastern United States, The Preparation and Significance of 278
Gordon-Bennett Balloon Race, Sept. 23rd, 1923. M. A. Giblett 210
Graduation of altimeters 189
International photographic survey of the sky 111, 181, 216, 221
Nuageux, Les Systèmes 227
Outer atmosphere, A theory of meteors and the density and temperature of the, to which it leads 33
Pilot Balloon Ascents in Pretoria, 1918 to 1922 18
,, ,, Observations in northern Canada 108
,, ,, Trajectories, Two unusual (*illus.*). Capt. D. Brunt 80
Pilot Balloons, Computed heights of 287
Pilot Balloons, Lightning and Oxides of Nitrogen 162
Protection of aircraft from atmospheric electricity 191

Investigations of the Upper Air—*cont.* PAGE

Soaring Flight 62
Sunlight, Effect of, on textile materials 190
Toy balloon races from Brighton (*illus.*). Hy. Harries 30
Toy balloons liberated at Gerrard's Cross 144
,, ,, together falling in the same place 32
Upper air data, An examination of British, in the light of the Norwegian theory of the structure of the cyclone 84
,, , High temperature in the, as an explanation of zones of audibility 17
,, reports from Lindenberg 57
,, results in South Africa 18
, The first samples of dust from the 140
,, work at Pavlowsk 34
Upper atmosphere, Conditions in, studied from meteors 17
,, ,, , Recent researches on the Constituents of the. M. T. Spence 223
Vertical Visibility, Wind and Dust. W. H. Pick and S. P. Peters 161

Cosmical Relations :—

Meteor, A detonating 58
,, , Some particulars of a typical 33
,, , Temperature of a volatilizing 33
Meteors, Characteristics of the atmosphere up to 200 kms. as obtained from observations of 54
,, , A theory of, and the density and temperature of the outer atmosphere to which it leads 291
,, , The study of 33
,, , The temperature of 17
Solar Radiation and the 27 day interval. Dr. C. Chree 17
,, ,, at South Kensington, 1913-1920. L. C. W. Bonacina .. 25
Sunspots, The earth and the sun, An hypothesis of weather and 27

Optical Phenomena :—

Anti-solar beam, A single. Bude, August 31st, 1922, Karl Durston ... 4
,, light, Theories of the 186
,, rays. C. F. Talman 57
,, rays and cloud shadows (*illus.*). G. A. Clarke 3
,, rays in Bechuanaland Protectorate. A. H. Wallis 105
Cirrus plume, The shadow of a. Manchester, Aug. 20th, 1922. F. Edwards 5
Cross, A lunar 291
Dawn and sunset colours. Meteorology and Folklore 132
Fata Morgana 12
,, ,, C. M. Botley 36
Green sky colouring 3
Halo, A brilliant. June 30th. J. E. Clark 127, 182
Halo, Complex, A. August 20th. G. C. Lawson 207
Halos, The frequency of Solar 138
Mirage, Helmholtz waves and 13
,, , Inversion of temperature and 13
,, , Surging, Fair Isle, April, 1919 12
Purple light at sunset 4
Rainbow, A brilliant, following a line-squall at Ross-on-Wye, Feb. 26th, 1923 39
,, , A curious lunar. J. C. Waller 232
,, , A lunar, Deal, Feb. 22nd. Arthur Butcher 36
Sky effect, An unusual, Biggin Hill, Dec. 5th, 1922 13
Solar phenomenon, A peculiar. C. F. Priestley 88
Sun, A kaleidoscopic, Kilmurry, January 9th. Joseph Mintern 10
Telluric Spectroscopy. Angus Rankin 252

Atmospheric Pressure :— PAGE

Barometer, The ... 108
,, at sea, The ... 286
Change, Sharp, of pressure accompanying a hailstorm ... 15
Fluctuations, Notes on the, of mean sea-level in relation to change of atmospheric pressure ... 85
Life cycle of cyclones and the polar front theory of atmospheric circulation ... 7
Line-squall, A, at Ross-on-Wye, Feb. 26th ... 39
Low barometer readings, Feb. 26th. E. W. M. Murphy ... 37
Low pressure at Valencia during gale of Feb. 7th ... 40
Oscillation, The east-west, of the Icelandic minimum as shown by monthly pressure charts ... 173
Preparation and Significance of Free Air Pressure Maps for the central and eastern United States ... 278
Pressure distribution, sea temperature and weather of May, 1923. C. E. P. Brooks ... 100
Pressure, The precise measurement of ... 42
Pressure, The 2·2 year period in rainfall and, Southport ... 6
Tropical variations in barometric pressure ... 179

Temperature and Radiation :—

Temperature :—

Air temperature, Attempts to measure, by shooting spheres upward ... 251
,, , Seasonal variation of, at great heights ... 141
Air temperatures, Diagrams of upper, from Lindenberg ... 57
Frost of 1683, The ... 183
Frost service of southern California, The ... 60
Ice in the Atlantic ... 115
Inversion of temperature and mirage ... 13
High temperature of July, 1923, The ... 149
High temperatures in the upper air as an explanation of zones of audibility ... 17
Maximum temperature, Record, at Buenos Aires, Jan. 20th ... 44
Maximum temperatures, Distribution of, at Newquay (*illus.*) ... 208
Mildness of the winters at Bristol since 1894-5. W. F. Denning ... 38
Minimum temperatures, Forecasting of night, from the temperature and humidity of the preceding afternoon ... 63
Minimum Thermometers ... 284
Sea frozen at Dymchurch Wall, Jan. 20th, 1683 ... 19
Sea temperature, pressure distribution and weather of May, 1923. C. E. P. Brooks ... 100
Soil temperature, Autographic record of, at Kew Observatory ... 189
Temperature during the line-squall of Feb. 21st (*illus.*). E. G. Bilham 77
,, in the upper air, Relation between humidity and ... 84
,, of a volatilizing meteor ... 33
,, of the atmosphere between 50 and 150 km. ... 34
,, of the outer atmosphere to which it leads, A theory of meteors and the density and ... 33
,, readings from different instruments in various positions at Kew Observatory ... 186
,, records on Mt. Everest ... 126
,, , Tropical ranges in. S. S. Visher ... 121
Warm, wet February, A. Totland Bay. John Dover ... 38

Radiation :—

Radiation measured at Benson, 1923 ... 65, 142, 214
Soaring flight ... 62
Solar radiation and the 27 day interval. Dr. C. Chree ... 25
,, at South Kensington, 1913-1920. L. C. W. Bonacina ... 27
Sunshine at Margate ... 261

Aqueous Vapour and Rain :— PAGE

Aqueous Vapour :—

Cirro-cumulus cloud, Note on, Nov. 28th (*illus.*). G. A. Clarke 213
Cirrus plume, The shadow of a, Manchester, Aug. 20th, 1922. F. Edwards 5
Cloud formation, Nuclei of condensation 8
,, shadows, Anti-solar rays and, (*illus.*). G. A. Clarke..... 3
,, spiral, A (*illus.*). E. G. Bilham 212
,, week, International (*illus.*)..... 221
Fog prevention 39, 41
Haziness 8
Humidity of the preceding afternoon, Forecasting of night minimum temperatures from the temperature and 63
Humidity, The influence of forests on rainfall and 59
Mirror position finder 112
Nuages à l'Observatoire de Montsouris, Classification détaillée des 53
Nuageux, Les systèmes 227
Rime as an indicator of air movements 263
Sky effect, An unusual 13
Sky, The significance of a red 273
Telluric Spectroscopy (*illus.*). Angus Rankin 252
Water in the Atmosphere 44, 91
Weather Lore in the light of Science 273

Rain :—

Formation of rain, Meteorological conditions for the 7
Rain, A prayer for 91
,, , Black, on the Comeragh Mountains. J. E. Grubb 55
,, , from a clear sky 64
Rain-gauges, The design of. A. E. Swinton 37
Rain, Heavy, of July 28th, 1703 183
,, , Lecture on 68
,, making in America, An account of 39
,, of 1703 19
,, , The burning of ferne doth draw downe 254
Rainfall and humidity, The influence of forests on 59
,, and pressure, The 2·2 year period in, Southport 6
,, at Bristol..... 38
,, , General distribution..... 293
,, in the British Isles considered cartographically, The fluctuations of annual 102
Rainfall of 1923, The..... 288
,, of August 6th, 1922, at Trent Lane Pumping Station, Nottingham 43
,, of August 6th to 8th, 1922, at Hodsock Priory, Worksop 43
,, of the Dutch East Indies 265
,, , Something like a. John Moore 160
,, Tables for 1923 .. .. *monthly*
,, , The duration of, under different wind direction at Southport and Sunderland 6
,, , Variability of Tropical Climates II., Variation in the 154
,, , Volumetric determination of 188
Variability of Climates. A. Pearse Jenkin 255
Warm, Wet February, A, Totland Bay. John Dover..... 38
Yankee Enterprise 136

Solid Precipitates :—

Hail at Nottingham. A. B. Tinn 161
Hailstorm, Great, at Hursley, 1582 20
,, Sharp change of pressure accompanying a, Vienna, July 23rd, 1905..... 15

Aqueous Vapour and Rain—*cont.* PAGE

Solid Precipitates—cont.

International symbols ← and ↑ ... 110
Snow at Hursley, October, 1629 ... 20
,, of April 22nd, 1676 ... 183
Snowdrift, Symbols for. Bruno Rolf ... 160

Hydrology :—

Floods on river Suir, Feb. 27th and 28th. E. W. Montagu Murphy .. 38
High tides at Goodnestone in 1690 ... 19
Irrigation, Cane Sugar and ... 59
London's water supply ... 182
Meteorological effects on sea-level and tides ... 203
Relation between rainfall and the discharge of the river Mersey 1921, Notes on the ... 188
Underground water levels for 1922 in the North and South Downs 65

Wind :—

Blizzard, A terrific, in the United States ... 289
Circulation of the Earth's atmosphere, The energy of the ... 203
Gale of February 26th, 1923, in southern Ireland ... 37
,, of December 3rd, 1920 ... 14
Gust, A record, at Valencia Observatory, February 7th, 1923 ... 40
,, , A solitary, at Balmakewan, November 29th, 1922 (*illus.*) ... 14
,, at Quilty, January 27th, 1920 ... 14
Gusts, Solitary ... 63
Line-squall at Ross-on-Wye, February 26th ... 39
,, ,, of February 21st (*illus.*) E. G. Bilham ... 77
Meteorology and Folklore ; More about the wind. C. M. Botley ... 56
Soaring flight ... 62
South East Trades, An epic of the— ... 137
Sumatras of the Malacca Straits, Notes on the ... 105
Wind and Dust, Vertical Visibility. W. H. Pick and S. P. Peters 161
,, directions at Southport and Sunderland, Duration of rainfall under different ... 6
,, record, A remarkable, Southport, August 29th-30th. (*illus.*) E. G. Bilham ... 234
,, storms of November, 1703 ... 183
,, suction in lighthouses, Effect of ... 135, 285
Winds, Tropical variations in respect to the, S. S. Visher ... 124

Cyclones, Storms, &c. :—

Cyclone, An examination of British upper air data in the light of the Norwegian theory of the structure of the ... 84
Cyclones and anticyclones, On the mechanism of ... 84
,, Life cycle of, and the polar theory of atmospheric circulation 7
,, , On the mechanism of extratropical ... 35
,, , The cause of ... 280
,, , Travelling ... 227
Great storm in London. Spencer Russell ... 152
,, ,, of 1703 ... 19
,, ,, of December 1612 at Great Chart ... 20
Polar fronts " as shewn by the upper air reports from Lindenberg ... 57
Storm irregularity in the Tropics ... 178
Thunderstorm, Cycling through the. F. W. Jude ... 153
Thunderstorms, of July 10th, The ... 143
,, in June, 1923 ... 182
,, of July, 1923. The, (*illus.*) M. A. Giblett ... 149
,, , Reports of winter ... 68

Wind—*cont.* PAGE

Cyclones, Storms, etc.—cont.

Thunderstorms, Winter. C. K. M. Douglas 51
Vortical Systems. On the growth and decay of 35
Water Spouts. C. M. Botley 132
Wind and Weather 285
Wind storms of November 1703 183

Atmospheric Electricity :—

Atmospheric Electricity from the Engineer's point of view..... 258
Atmospherics, Nature of. (*illus.*) F. J. W. Whipple 49
,, , Observations on, at Cranwell. W. H. Pick,..... 85
R. A. Watson Watt.... 86
,, , Study of..... 17
Aurora and allied phenomena..... 9
,, , Audibility of..... 9
,, , Observations on the. C. S. Wright..... 66
,, Polaris ; Meteorology and Folklore. C. M. Botley..... 87
Lightning and Oxides of Nitrogen in connection with pilot balloons 162
Lightning, Ball 258
,, , Nature of ball 259
,, , Production by, of a Shadow, picture on bare boards (*illus.*).. 166
Thunder and lightning accompanying line-squall at Ross-on-Wye, February 26th 39
Thunder and lightning; Meteorology and Folklore..... 11

Climatology and Weather :—

British Climate in Historic Times 284
Cleaner air for London..... 41
Climate and weather of the Falkland Islands, Publication of summary of the 239
Climates, Variability of. A. Pearse Jenkin 255
,, , Variability of Tropical. S. S. Visher..... 121, 154, 178
Climatological Table for the British Empire ..... *monthly*
Climatology and Agriculture in the Tropics 59
,, , Medical, of England and Wales. R. C..... 263
Colombo records for 1922 214
East-west oscillation of the Icelandic minimum as shewn by monthly pressure charts (*illus.*) C. E. P. Brooks..... 173
Insurance, Horse racing and weather 239
,, Rainfall. F. J. W. Whipple 184
,, ,, I. R. Williams 230
Klimatische Kontinentalität und Ozeanität 249
Meteorology and Geography. 284
Meteorology of Nottingham, 1922 43
,, on the Cairo to Baghdad Aerial route 163
Phenological Observations in the British Isles for the year 1922, Report on the 126
Prime, The. C. M. Botley 206
Solar radiation and the 27 day interval. Dr. C. Chree..... 25
Summer of 1725 at Seasalter..... 19
Weather and the Crops. Jevons Memorial lectures..... 239
,, ,, Wind..... 285
,, , May. C. E. P. Brooks..... 130
F. J. Parsons 130
,, in 1867 and 1923. H. A. Boys 106
,, of 1921 and 1923 compared with that of 1865 and 1867. H. A. Boys 129

Climatology and Weather—*cont.* PAGE

Weather of 1922 at Hodsock Priory Worksop 43
,, ,, 1923 ..... *monthly*
,, ,, May 1923, Sea Temperature, pressure distribution and 100
,, ,, recent years in Bristol. W. F. Denning 38
,, paradoxes 275
,, parallels. H. A. Boys 233
,, , Tropical changes of. S: S. Visher 179

Weather Forecasting :—

Ben Nevis band as an aid to forecasting. Angus Rankin 253
Circulation of forecasts by telephone 83, 165
Floating Weather Bureau, A 89
Forecasting of night minimum temperatures from the temperature and humidity of the preceding afternoon 63
Forecasting, Twelve years' progress in weather. R. G. K. L. 245
Forecasts for the London area 16
Growth of the Daily Weather Map 257
Meteorology and Folklore. C. M. Botley 11, 56, 87, 132
Paradoxical Philosophy 16
Simple weather forecasting. W. M. Robertson 10
Supply of forecasts to the Public 16
Weather forecasting, The Key to 16
Weather Lore in the light of science 273

Meteorological Observations :—

Canada's daily working maps 257
Charts of the North Atlantic 257
Japanese daily weather charts of the North Pacific Ocean 257
Meteorological charts of the Oceans 261
Observations at Stations of the first and second order, 1921 286
Observations in Esthonia 287
Wireless direction-finding apparatus 250
,, , The saving of money by the use of 267
,, weather reports. A new series of 267

Seismology and Vulcanology :—

Earthquake felt at Whitstable, An, September 8th, 1692 20
,, , The great, in Japan. How the meteorologists fared 247
Periods in Earthquakes 204

Astronomy :—

Adoption of the Gregorian calendar in Russia 34
Reform of the calendar 35, 138
Use of the Gregorian calendar in Greece 68

Oceanography :—

Light in the Sea. M. T. Spence 73
Oceanographic investigation by the Armauer Hansen 191

ERRATA

Page 144, bottom line. *For* " 15°F." *read* " 43°F."
,, 204, footnote. *For* " July " *read* " Sept."
See also page 142.

ILLUSTRATIONS

PAGE

Anti-Solar Rays observed at Aberdeen, July 5th, 1911 ..... *Frontispiece*
A solitary gust. Anemogram from Balmakewan, November 29th, 1922 15
Brighton toy balloon races, September 13th, 1922 31
The nature of Atmospherics, Wave forms 50
Records of wind, pressure and temperature in south-east England February 21st 79
Trajectory of pilot balloon at Shoeburyness, January 23rd 81
Mortyn de Carle S. Salter, 1880-1923 ..... *face p.* 97
Anemometer Pens 131
Anemometer and pressure records at Spurn Head 135
Distribution of rainfall accompanying thunderstorms of July 9th-10th .. 151
An open scale meteorograph ..... *face p.* 166
A shadow-picture produced by lightning ..... *face p.* 166
East-West Oscillations of the Icelandic Pressure Minimum 175
Average position of Icelandic minimum showing maximum displacements to the West (A) and East (B) 177
Rank Diagram of monthly maximum temperature for Newquay 209
Cirrus Spiral observed at Shoreham-by-Sea, July 14th ..... *face p.* 212
Cirro-Cumulus observed at Aberdeen, November 28th, 1922 ..... *face p.* 213
Whole sky photographs, Cambridge, September 24th ..... *face p.* 222
List of French symbols 229
Autographic records at Southport, August 29th-30th 235
Synoptic chart, August 29th, 18h 236
The Solar Spectrum 253
Pressure—Temperature logarithmic paper 282